



# MANSCEN

Command Sergeant Major  
Safety Action Council  
(CSMSAC)

21 June 2006



# **CSMSAC Agenda**

- **Introduction**
- **Hot Weather Injury Prevention**
- **90-Day Hazard Assessment**
- **Open Discussion**
- **Commanding General Closing Comments**

# HEAT INJURY PREVENTION

- ◆ **MANSCEN's 2005 Experience**
- ◆ **Lessons Learned**



# MANSCEN's 2005 Experience

- ◆ Nine heat strokes
- ◆ Ages 18-31
- ◆ E1-O3
- ◆ Six different units (169<sup>th</sup>, 43d, 701<sup>st</sup>, 1-48, 82d, SLC)
- ◆ Six males, 3 females
- ◆ Five of the 9 occurred during Heat Cats 0 or 1
- ◆ Six occurred during the period 2300-0850

# MANSCEN's 2005 Experience

## Temperature Trends

- ◆ **Very high temperatures:**
  - Days of 100° or 100°+ temperatures (5 of 9)
  - Days of 95° or higher temperatures (8 of 9)
- ◆ **Sustained high temperatures:**
  - Days when the temp was at least the third consecutive day of 90° or above (7 of 9)
- ◆ **Temperature spikes:**
  - Days when the temp was at least +7° compared to prior day (5 of 9)
- ◆ **Days when the temp was at least 100° or increased at least 7° from the prior day (8 of 9)**
- ◆ **The first heat stroke, 24 June, occurred on the third day of 90° (8 of 9)**

# MANSCEN's 2005 Experience

- ◆ **Five of the 9 occurred during Heat Cats 0 or 1**

## #1. Heat Cat 0:

- Not acclimated
- 3d day at 90° or 90°+

## #2. Heat Cat 0:

- 2d day in unit
- Heat Cat 5 during both days

## #3 and #4. Heat Cat 0:

- 5<sup>th</sup> day of FTX
- Heat Cat 5 all 5 days (105° on day of heat stroke)

## #6. Heat Cat 1:

- 102° on day of heat stroke, 105° on prior day

# MANSCEN's 2005 Experience

## Activity Trends

- ◆ **8 of 9 during runs or road marches (8 of 9)**
- ◆ **Remaining 1 during an FTX (day started with 8K foot march to FTX site)**

**#1 - PT ability group run**

**#2 - 1/1/1 run**

**#3 - 15-km road march, fifth day of FTX**

**#4 - 15-km road march, fifth day of FTX**

**#5 - 12-mile road march**

**#6 - 10-km road march**

**#7 - FTX (8K foot march earlier in the day)**

**#8 - 3-mile run**

**#9 - 5-mile run**

# **Heat Injuries Lessons Learned**

- ◆ **Balance Warrior Ethos and training requirements with health and safety.**
- ◆ **Be alert for Soldiers who are so well motivated that they may put themselves at risk of heat injuries by being reluctant to report heat injury symptoms.**
- ◆ **Cumulative Heat Stress is important! If Soldiers are subjected to successive days of heat stress, modify training to mitigate heat injury risk.**
- ◆ **Reverse cycle training as the standard day.**
- ◆ **Cancel training (both optional and required events) when necessary to protect Soldiers from heat.**

# Lessons Learned

- ◆ Be very cautious regarding conducting road marches and PT runs during hot weather.
- ◆ Ensure that Drill Sergeants actively check Soldiers for signs of heat injuries, during rest halts. Consider making these checks more than just verbal. Hands-on checks, to confirm perspiration and body temperatures are better.
- ◆ Consider bringing Soldiers in for cold showers, after each major event during the training day.
- ◆ Consider allowing cool field showers the night before a road march, in order to "cool down" Soldiers
- ◆ At the end of a training activity, or even during the activity, issue wash cloths soaked in cold water, to Soldiers, to use in cooling themselves. An alternative is disposable moist towelettes.

# Lessons Learned

- ◆ Ensure that Soldiers are getting adequate sleep.
- ◆ Ensure that additional nutritional items are available on site during high heat periods, to supplement diets.
- ◆ Eat food more often (vegetables, fruits, salty snacks, electrolyte/carb/ protein beverages, electrolyte/carb/protein gels every 4 hrs or less).
- ◆ Ensure sufficient electrolyte intake (salty snacks, salty soups, electrolyte beverages, electrolyte gels).
- ◆ Empower leaders and battle buddies to monitor and enforce hydration and dietary compliance (eating a normal diet).
- ◆ Wear sunscreen lotion (SPF 50, sweat proof, with vitamins).
- ◆ Establish misting stations on running tracks.

# Lessons Learned

- ◆ Rehearse casualty evacuation plan to ensure 100% communication (cell phone dead zones, radio interfaces).
- ◆ Ensure that Ice Sheets are available at all training sites. Plan on 8 sheets per company in large ice water cooler.
- ◆ Promptly use Ice Sheets for suspected heat injuries. Quick action to cool the Soldier's body may make the difference between a minor injury and a life-threatening condition.
- ◆ When iced sheets are used, they should be repeatedly re-iced and cooled during the victim cooling process. Cooling should be aggressive and should continue until the Soldier's mental status returns to normal.



# Lessons Learned

- ◆ Any soldier with mental status changes (confused, unable to follow instructions, "not acting right", passed out) should be cooled immediately. Cooling should never be delayed to assess body temperature - begin treatment first (iced sheets), then assess their temperature.
- ◆ Cooling is the most critical intervention in the treatment of Heat Injuries. Do not try to transport a heat casualty victim yourself, except as a last resort
- ◆ As a general rule, heat casualties should not be transported to TMCs. Heat Casualties with mental status changes that required iced sheet treatment should be transported by competent medical authorities (**call for EMS**) while leaders/trainers focus on cooling and the ABCs while awaiting transport. Start initial treatment and **call for the ambulance**.

# Lessons Learned

- ◆ Due to the unreliable nature of tympanic (ear) temperatures, evacuation decisions should never be based on tympanic temperatures.
- ◆ Realize that the initial signs of a lesser heat injury may cloud assessment of a worsening condition. Do not underestimate the possibility of a worsening condition.
- ◆ When outside the cantonment area, use the LMR radio to notify Range Control for evacuation. Use the red button priority option.
- ◆ **When in Doubt, EVACUATE!** - Do not hesitate to immediately evacuate to the ER any Soldier who shows signs of a heat injury.

Evac ASAP  
Cooling enroute

Maintain 100%  
constant  
monitoring

Soak with  
water and  
fan

Elevate  
feet

Strip to  
underwear

Cover with  
iced sheets

Replace  
or refresh  
sheets  
when warm

Cover top  
of head



## Iced Sheet Treatment

Stop cooling when casualty starts shivering or **rectal temp is 100 F. (Medic or EMT task)**

Basic load: 8 sheets/company in large cooler of ice water. 14

# Water Intoxication (Hyponatremia)

- Frequently occurs in basic training units
- Caused by drinking too much **plain** water (over 12 qts/day)
- Characteristic symptoms:
  - Mental status changes
  - Vomiting
  - History of consumption of large volume of water
  - Poor food intake
  - Abdomen distended/bloated
  - Large amounts of clear urine
- Do not give more water or IV!

If awake, allow Soldier to consume salty foods/snacks

# Rhabdomyolysis (Destruction of Muscle)

- TR 1-8 reportable illness (as of 15 APR 05)
- Common Causes:
  - Over exertion
  - Significant Heat Injury (complicated by poor hydration)
- Characteristics symptoms:
  - Muscle aches
  - Darkening of urine
  - Muscle weakness/pain
  - Electrolyte abnormalities
- Usually more severe if Sickle Trait positive
- ~~Can lead to kidney failure and death~~

# 90 Day Hazard Assessment

## Findings

- Accident rates spike in periods immediately following major operations.
- Army accidents on the rise.
- Summer accident experience normally higher.
- POV accidents continue to be the biggest killer of soldiers, civilians and family members.
- Motorcycle 18X risk.
- Ongoing operations in Iraq and Afghanistan dictate strict force protection measures.
- Redeployment and reintegration can increase exposure - Stressors.
- R&R exposure.
- Summer recreation activities increase exposure.

## 4<sup>th</sup> QTR Concerns

- Reintegration
- Deployment and Redeployment Activities
- POV & Motorcycle Operations
  - ✓ Loss of Proficiency
  - ✓ Indulgence
  - ✓ Increased traffic congestion.
  - ✓ Increased road construction.
- Training and Exercises
- High OPTEMPO
- Preventing On-Duty and Off-Duty Accidents
- Suicides
- Summer Safety

# 4th Qtr FY06 Risk Assessment

## Areas of Concern

Standards & Discipline	Initia l Risk	
	Ex High	High
	Ex High	High
	High	High
	High	High
	High	High
	High	High



Low Risk



Moderate Risk



High Risk



Extremely High Risk

# POV Operations

## POTENTIAL RISKS

- Aggressive Driving
  - ✓ Speeding
  - ✓ Fatigue
  - ✓ Motorcycle Use
- Substance Abuse
  - ✓ Alcohol & Drugs While Driving
  - ✓ AWOL Machines
- Unsafe Vehicle Operation
  - ✓ Personal Vehicles Not Road Worthy
  - ✓ Driver Proficiency Degraded During Extended Deployment
  - ✓ Distracted Drivers (cell phones, eating)
  - ✓ Failure to use Seatbelts, Child Seats
  - ✓ Failure to Wear Motorcycle Helmets

## CONTROLS

- Leader Engagement
- Sustain Aggressive Driving Prevention Programs
- Aggressive Media Campaign
- Use Risk Reduction Program (RRP) to Identify At-Risk Drivers and Intervene
- Train First-Line Leaders on Techniques to Reduce POV Accidents (6-Point POV Program)
  - ✓ Leaders/Commanders Safety Course
  - ✓ POV Toolbox
- Enforce Army Substance Abuse Program – Evaluation of All Substance Abusers IAW AR 600-85
- Conduct POV Orientation and Motorcycle Refresher
- Enforce POV-Focused Provisions of DOD Instruction 6055.4, AR 385-55
- Implement Vehicle Inspections Prior to Releasing Soldiers

## CONTRIBUTING FACTORS

- Fatigue: Acute and Chronic
- Availability of Alcohol and Drugs
- Extended Driving Distances
- Increased Traffic Volume & Construction

# Redeployment and Reintegration

## POTENTIAL RISKS

- Insufficient Training
- Operation of Motor Vehicles
- Absence, Rotation or New Leadership
- Rail, Convoy and Port Operations
- Soldier Acclimation
- Reunion & Reintegration Stressors
- Units Without Risk Management Staff Expertise
- Deployment / Redeployment Preparedness
- Emerging Theater Specific Threats & Risks
- Rear Detachment Support During Redeployment and Reintegration Activities

## CONTROLS

- Leader Engagement
- Briefings and Counseling Sessions for Soldiers
- Maintain Active Leader Presence at Rear HQ during Redeployment and Reintegration Process
- Collection and distribution of Lessons Learned (DA, CRC)

## CONTRIBUTING FACTORS

- High OPTEMPO
- “Get-home-itis” or “Smelling the Barn”
- Lost POV Proficiency of Returning Soldiers
- Alcohol Tolerance of Redeploying Soldiers
- Fatigue: Acute and Chronic

# Training and Exercises

## POTENTIAL RISKS

- Active, on -  
Unit Level and Individual Mobilization  
Augmentees
  - ✓ Differing SOPs & Unit Policies
  - ✓ Differing Safety Structure & Oversight
- Military Vehicle Operations – Night and Limited Visibility Operations
- Short Notice Rotational Schedule due to Wartime Commitments
- Acquisition of Off-the-Shelf and Conditional Material Release Equipment
- Training Rotations
  - ✓ Live Fire

## CONTROLS

- Chain of Command Presence at Training
- Provide Adequate Planning Time
- Closely Manage Taskers and Schools to Assure Leader Presence During Training
- Use Crawl / Walk / Run Approach to Limited Visibility Training
- Conduct Task Force Mission Rehearsals and Mission / Safety Briefs Before Operations
- Review and Acceptance at Appropriate HQ for Off-The-Shelf and Conditional Materiel Release Equipment
- Rapidly Disseminate Conditional Materiel Release Equipment Lessons Learned
- Ensure Hot Weather Training - Implement Work/Rest Cycles

## CONTRIBUTING FACTORS

- OPTEMPO
- Fatigue and Stress
- Extended Driving Distances
- Increased Hours of Operation

# Holiday/Off Duty Activities

## POTENTIAL RISKS

- Conducting activities which have no definable standards or controls.
- Human Factors
  - ✓ Overconfidence
  - ✓ Complacency to Off-Duty Hazards
  - ✓ At-Risk Behavior
- Celebrations Involving Alcohol
- Driving Long Distances
- Exposure to high risk activities
  - ✓ Water Sports

## CONTROLS

- 1st Line Leader Engagement
- Pass Control: Early Departure / Late Arrival
- Aggressive Command Information Program
- Sustain Aggressive Driving Prevention Programs at All Levels:
  - ✓ Aggressive Media Campaign
- Use Risk Reduction Program (RRP) to Identify At-Risk Drivers and Intervene
- Enforce Army Substance Abuse Program – Evaluation of All Substance Abusers IAW AR 600-85
- Buddy System

## CONTRIBUTING FACTORS

- No Supervisory Oversight While Off Duty
- Fatigue and Stress
- Alcohol & Drugs
- Extended Driving Distances – Holiday Driving
- Cold and Inclement Weather

# Suicides

## POTENTIAL RISKS

- Loss of
- Possible Threat to Family & Acquaintances
- Humanitarian Considerations
- Access to Weapons

## CONTROLS

- Leader Involvement
- Effective command communication and suppression of mis-information.
- Ensure Unit Suicide Prevention Programs Are Completed
- Review Guidelines in Suicide Prevention Policy
- Train 1st Line Leaders to Identify and Assist At-Risk Soldiers
- Wellness Programs
- Chaplain's Programs
- Mental Health Involvement
- Weapons and Ammunition Control Procedures
- Effective Implementation of the Risk Reduction Program (RRP)

## CONTRIBUTING FACTORS

- 
- Marital / Relationship Discord
- Deployment Stress
- Combat Stress
- Financial Pressures / Obligations
- Substance Abuse

# **OPEN DISCUSSION**

# **CSM Cheney's Closing Remarks**